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TRACY W. DRUCE, ESQ.
NOVAK DRUCE & QUIGG LLP
1615 L STREET NW
SUITE 850
WASHINGTON, DC 20036

EXAMINER

RODRIGUEZ, WILLIAM H

ART UNIT PAPER NUMBER

3746

DATE MAILED: 12/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/709,661

Applicant(s)

JONSSON ET AL.

Examiner

William H. Rodriguez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-9 and 11-22 is/are rejected.
- 7) ☒ Claim(s) 5 and 10 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5/20/04; 9/17/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: --A device for a combustion chamber in a gas turbine for controlling the intake of gas to a combustion zone--.

Claim Objections

2. Claims 1-22 are objected to because of the following informalities: the recitation [c#] should be replaced by ---1.; 2;etc--, respectively-. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 7-12, 14 and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 7-11 recite the limitation "the first cover means" in line 1. There is insufficient antecedent basis for this limitation in the claim. Notice that claim 1 positively recites "a cover means" not "a first cover means". Appropriate correction is required.

Claims 12 and 21 recites the limitation "the combustion chamber wall" in line 2. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

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Claim 14 recites the limitation "the outer structure" in line 2. There is insufficient antecedent basis for this limitation in the claim. Notice that claim 1 positively recites "a structure" not "an outer structure". Appropriate correction is required.

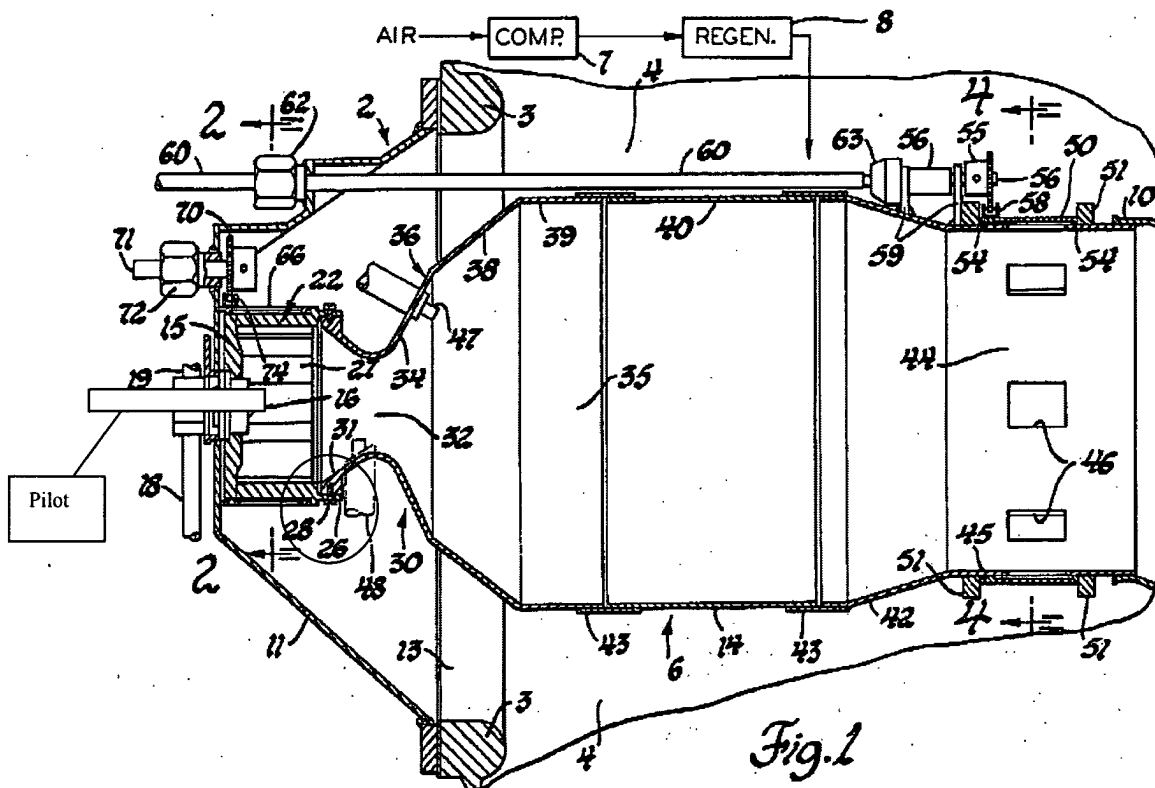
Claim Rejections - 35 USC § 102

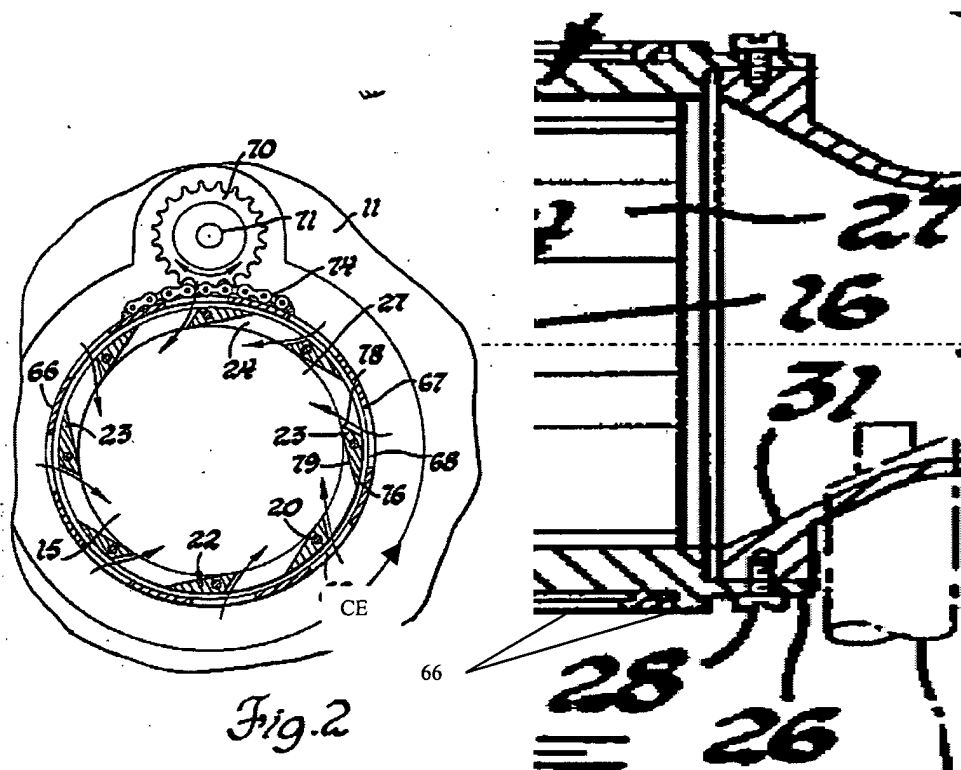
5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-4, 6-8, 11-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Cornelius et al. (U.S. 3,958,413).





With respect to claim 1, **Cornelius** teaches a device for a combustion chamber (2) in a gas turbine for controlling the intake of gas to a combustion zone of the combustion chamber, said device comprising: a control element CE arranged outside the combustion chamber, said control element further comprising a cover means (66) for covering at least a first inlet 24 to the combustion zone, said cover means 66 being displaceable relative to the combustion chamber, and a support means (31) for the control element which is connected to the cover means 66, said support means (31) being accommodated in a structure (26) at a rear of the combustion chamber. See particularly **Figures 1, 2** of **Cornelius**.

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With respect to claim 2, **Cornelius** teaches that the structure 26 in which the support means 31 is accommodated forms at least part of the cover means 66. See sectional view of **Figure 1** above.

With respect to claim 3, **Cornelius** teaches that the structure 26 in which the support means 31 is accommodated is predominately concentrically oriented with a centerline of the combustion chamber. See sectional view of **Figure 1** above.

With respect to claim 4, **Cornelius** teaches that the structure 26 in which the support means 31 is accommodated is radially oriented outside a pilot distributor (not shown but inherent feature in a combustion chamber) to the combustion chamber. See particularly **Figure 1** of **Cornelius**.

With respect to claim 6, **Cornelius** teaches the structure 26 in which the support means 31 is accommodated has a circular cross-sectional shape. See particularly **Figure 1** of **Cornelius**.

With respect to claim 7, **Cornelius** teaches that the cover means 66 has at least one recess 68 extending predominantly in a radial direction through a wall thereof. See particularly **Figure 2** of **Cornelius**.

With respect to claim 8, **Cornelius** teaches the recess 68 in the cover means 66 is arranged together with the first inlet 24 to the combustion chamber thereby establishing a through-duct for gas from a location outside the combustion chamber to a location inside the combustion chamber. See particularly **Figure 2** of **Cornelius**.

With respect to claim 11, **Cornelius** teaches that the cover means 66 is ring-shaped with recess 68 extending through the wall of the ring. See particularly **Figure 2** of **Cornelius**.

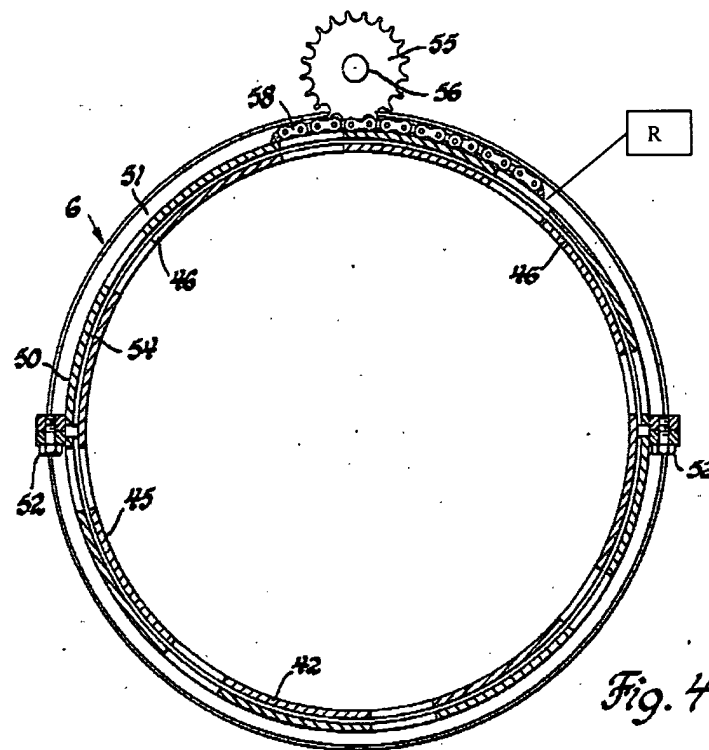
With respect to claim 12, **Cornelius** teaches that the cover means 66 is rotatable in relation to the combustion chamber wall 22. See particularly **Figures 2, 3** of **Cornelius**.

With respect to claim 13, **Cornelius** teaches that the support means 31 and the cover mean 66 are fixed to one another (through the structure 26 and bolts 28). See particularly **Figure 1** of **Cornelius**.

With respect to claim 14, **Cornelius** teaches that the control element is rotatable relative to the structure. See particularly **Figure 1** of **Cornelius**.

With respect to claim 15, **Cornelius** teaches that the cover means 66 is arranged at a greater radial distance from a central axis through the control element than is the means of support 31. See particularly **Figure 1** of **Cornelius**.

With respect to claim 16, **Cornelius** teaches that the first inlet in the combustion chamber wall, which the control element is intended to control, forms a gas inlet to at least one swirl (not shown but mentioned that a swirler can be placed at the claimed location, see column 5 lines 46-48; line 20 of the abstract; and column 5 lines 8-10) arranged in the combustion chamber.



With respect to claim 17, **Cornelius** teaches that the control element further comprises a second cover means (50) configured to cover at least a second inlet to the combustion zone, the second inlet being arranged at a distance from the first inlet in the longitudinal direction of the combustion chamber. See particularly **Figures 1, 4** of **Cornelius**.

With respect to claim 18, **Cornelius** teaches that the second cover means 50 has at least one recess R which extends at least largely in a radial direction through the wall thereof. See particularly **Figure 4** of **Cornelius**.

With respect to claim 19, **Cornelius** teaches that the at least one recess R in the second cover means 50 is arranged, together with the second inlet 46 to the combustion chamber, to form a through-duct for gas from a location outside the combustion chamber to a location inside the combustion chamber. See particularly **Figure 4** of **Cornelius**.

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With respect to claim 20, **Cornelius** teaches that the second cover means 50 is ring shaped and the recess R extends through a wall of the ring. See particularly **Figure 4** of **Cornelius**.

With respect to claim 21, **Cornelius** teaches that the second cover means 50 is rotatable relative to the combustion chamber wall 45. See particularly **Figure 4** of **Cornelius**.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Cornelius et al.** (U.S. 3,958,413) in view of **Kuwata** (U.S. 4,944,149).

Cornelius does not teach that the cover means 66 comprises at least two sets of the recesses, a first set being arranged at a distance from a second set in a longitudinal direction of the combustion chamber. However, in Figure 3 **Kuwata** teaches a device similar to **Cornelius** wherein the cover means 61 comprises at least two sets of the recesses 65, a first set being arranged at a distance from a second set in a longitudinal direction of the combustion chamber in order to cover two different sets (circumferential rows of dilution holes around the combustion chamber wall) of dilution holes on the combustion chamber wall. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have added a second set of recesses to **Cornelius'** cover means in order to cover an additional set of dilution

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holes located on the combustion chamber wall as taught by Kuwata. See particularly **Figure 3** of Kuwata.

9. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Cornelius et al.** (U.S. 3,958,413) in view of **Verdouw** (U.S. 3,930,369).

Cornelius teaches that by coordinated rotation of shafts 60 and 71 by any suitable control or, for that matter, even manually, the actual areas and therefore the relative areas and relative flows at the primary and secondary air entrances may be varied as desired (column 5 lines 3-7). **Cornelius** does not teach that second cover means 50 is connected to the first cover means 66 by at least one arm. However, **Verdow** teaches a device similar to **Cornelius**, wherein a second cover means 71 is connected to first cover means 66 by at least one arm 103 so as to have a coordinated movement between the covers means, that is the two set of cover means 66, 71 move so that, as the first port in the prechamber open, the second port in the dilution area close allowing better control of the airflow into the combustor. Therefore, one of ordinary skilled in the art at the time the invention was made would have found it obvious to have connected **Cornelius'** first cover means 66 to the second covers means 50 by an arm (as taught by **Verdouw**) to allow the two set of cover means 66, 50 to have an optimum coordinated rotation between them (as the first ports in the prechamber open, the second ports in the dilution area close) allowing better control of the airflow into the combustor. See particularly **Figure 1** of **Cornelius**; and column 6 lines 60-64, **Figure 2** of **Verdouw**.

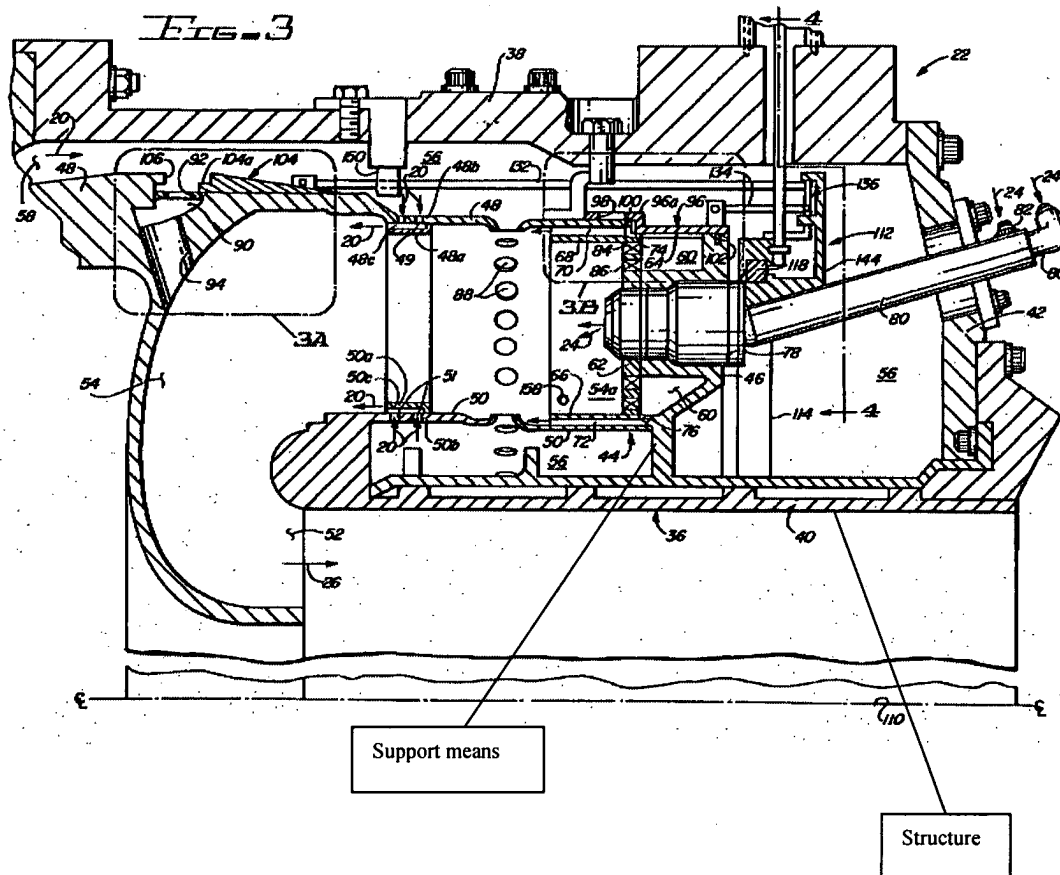
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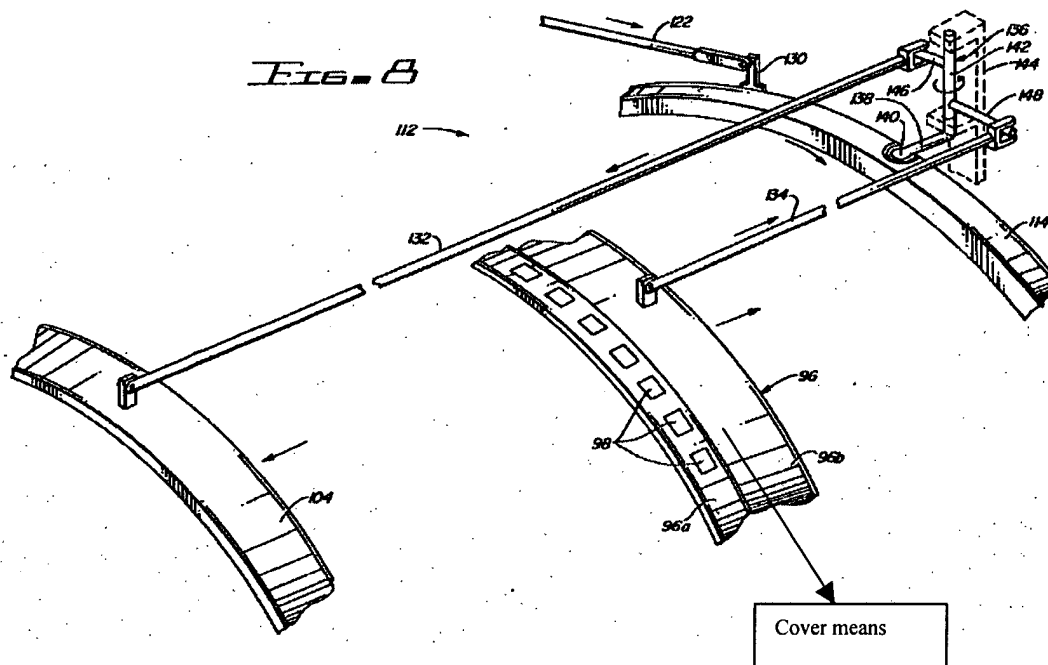
Allowable Subject Matter

10. Claims 5 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. reference 4,532,762 can be used to reject at least claim 1 under 35 U.S.C. 102 (b). See particularly Figures 3, 8 below.





Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Rodriguez whose telephone number is 571-272-4831. The examiner can normally be reached on Monday-Friday 7:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl J Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'W. Rodriguez', with a horizontal line drawn underneath it.

William H. Rodriguez
Examiner
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